



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,656	06/14/2005	Ulrik Mehr	66722-072-7	7353
25769 7590 04/18/2008 DYKEMA GOSSETT PLLC FRANKLIN SQUARE, THIRD FLOOR WEST 1300 I STREET, NW WASHINGTON, DC 20005				
EXAMINER				
LE, HUYEN D				
ART UNIT		PAPER NUMBER		
2615				
MAIL DATE		DELIVERY MODE		
04/18/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/530,656

**Applicant(s)**

MEHR ET AL.

**Examiner**

HUYEN D. LE

**Art Unit**

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hwang (U.S. patent 5,357,051).

Regarding claims 1 and 5, Hwang teaches a layered structure comprising at least one layer which comprises first and second metallic leads (1, 2, 21, 22) adapted for feeding electric signals and adapted to comprise transmitter and receiver components. Each component comprises corresponding first and second electrical terminals, respectively, and the corresponding first terminals and the corresponding second terminals are adapted to be electrically connected by the first and second metallic leads, respectively (figures 1, 5, 6).

Hwang further shows the first and second leads which are adhered to the at least one layer on the layered structure as claimed (figures 1-4).

As shown in figures 1 and 2, the first and second leads (21, 22) are passed side by side and alternating on the two sides (10, 10a) of the layer (also see col. 2, lines 26-68 through col. 3, lines 1-7). Each lead (21, 22) is electrically connected from one side to the other side via through holes (20) in the at least one layer, and the first and second leads (21, 22) cross one another at a substantially right angle as claimed.

Hwang does not specifically teach that the leads (21, 22) are connected to an amplifier at one end and to a hearing aid receiver at the other end. However, Hwang teaches a receiver that operatively receives the signal output from a transmitter (figure 1), and providing a hearing aid that has a transmitter such as an amplifier and a receiver is known in the art.

Therefore, it would have been obvious to one skilled in the art to provide the printed circuit board (1, 21, 22), as taught by Hwang, for connecting an amplifier at one end and to a receiver in the other end of any electronic or audio devices such as a hearing aid for greater application and for reducing radio frequency interferences between any transmitter such as the amplifier and the receiver.

Further, Hwang does not specifically disclose that the four through holes (20) of two crossing leads substantially constitute a square as claimed. However, Hwang does estimate a square shape that is constituted from the four through holes (figures 3, 4).

Therefore, it would have been obvious to one skilled in the art to provide the four through holes (20) of the two crossing leads (21, 22) substantially constitute any shape such as a square shape depending on the applications or the size of the device.

Regarding claim 2, the leads (21, 22) of Hwang pass in a way that a maximum number of twists as claimed (figures 3, 4).

Regarding claim 3, Hwang shows the leads and the through holes as claimed (see figure 1-4).

### ***Response to Arguments***

3. Applicant's arguments filed 3/28/08 have been fully considered but they are not persuasive.

Responding to the arguments about that the twisted pair of conductive strips (21, 22) of Hwang bonded to the same side of the printed circuit board, the Applicant should note that Hwang does teach the first and second conductive strips (21, 22) of Hwang are passed side-by-side and alternating on the two sides (the upper side 10 and the bottom side 10a) of the layer (figure 2, col. 2, lines 26-68 through col. 3, lines 1-7). Further, Hwang does teach the first and second conductive strips (21, 22) continuously twisting with each other to form a signal communication loop between a transmitter and a receiver, and providing a hearing aid that having a transmitter such as an amplifier and a receiver is known in the art. Therefore, it would have been obvious to one skilled in the art to provide the printed circuit board with the twisted pair of conductive strips, as taught by Hwang, for reducing any interference signals between the transmitter such as an amplifier and a receiver in a hearing aid.

### ***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUYEN D. LE whose telephone number is (571) 272-7502. The examiner can normally be reached on 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, SINH TRAN can be reached on (571) 272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HUYEN D. LE/  
Primary Examiner, Art Unit 2615

HL  
April 12, 2008